

### Abstract

The invention concerns an optical method and an associated device for characterization of particulate systems, with which the particles present in a particulate system, for example a clean room, can be detected in respect of quantity and size and at the same time information about the identity of the particles can be provided. In accordance with the invention an air flow from the ambient air is guided at a defined speed by a particle feeder past a first scattered light measuring unit and the scattered light is detected, the speed of the particle is then reduced and the particle which is moved at the reduced speed in the air flow is identified in an identification unit by means of interaction with monochromatic light.

In accordance with the invention identification of the particles is effected by combined laser-Raman spectroscopy which, with a short exposure time, by virtue of the use of powerful light sources, strong-light optics and in particular by the renunciation of high levels of optical resolution, affords results which can be used for automated evaluation. The low level of spectral resolution is used to advantage.